

RECEIVED

MAY - 4 1998

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

Federal Communications Commission  
Office of Secretary

In the Matter of	)	
	)	
The 2 GHz Band Mobile	)	
Satellite Service Applications and	)	
Letters of Intent of	)	
	)	
The Boeing Company,	)	File No. 179-SAT-P/LA-97(16)
	)	90-SAT-AMEND-98
	)	
Celsat, Inc. and Celsat	)	File No. 26/27/28-DSS-P/LA-97
America, Inc.,	)	88-SAT-AMEND-98
	)	
	)	
Constellation Communications, Inc.,	)	File No. 181-SAT-P/LA-97(46) -
	)	
Globalstar, L.P.,	)	File Nos. 182-SAT-P/LA-97(64)
	)	183-186-SAT-P/LA-97
	)	
ICO Services Limited,	)	File No. 188-SAT-LOI-97
	)	
Inmarsat Horizons,	)	File No. 190-SAT-LOI-97(4)
	)	
Iridium LLC,	)	File No. 187-SAT-P/LA-97(96)
	)	
Mobile Communications Holdings, Inc., and	)	File No. 180-SAT-P/LA-97(26)
	)	
TMI Communications and Company, Limited Partnership	)	File No. 189-SAT-LOI-97

CONSOLIDATED COMMENTS OF ICO SERVICES LIMITED

Francis D.R. Coleman  
Director Regulatory Affairs - North America  
ICO Global Communications  
1101 Connecticut Avenue, N. W.  
Suite 550  
Washington, D.C. 20036

Cheryl A. Tritt  
Charles H. Kennedy  
Sheryl J. Lincoln  
Morrison & Foerster LLP  
2000 Pennsylvania Avenue, N.W.  
Washington, D.C. 20006-1888  
(202) 887-1500

Attorneys for ICO Services Limited

May 4, 1998

## TABLE OF CONTENTS

	<u>Page</u>
SUMMARY.....	2
I. THE FCC SHOULD AUTHORIZE IN THIS PROCESSING ROUND ONLY QUALIFIED NEW ENTRANTS AND THOSE THAT WILL NOT WAREHOUSE SPECTRUM.....	3
A. Authorizing New Entrants In This Processing Round Will Promote Competition .....	3
B. The Commission Should Impose Appropriate Legal, Technical And Financial Due Diligence Requirements.....	6
C. The Commission Should Require A Demonstration That Holders Of Previously Assigned Spectrum Are Utilizing That Spectrum .....	7
II. THE ICO SYSTEM IS A QUALIFIED NEW ENTRANT AND SHOULD BE AUTHORIZED IN THIS FIRST PROCESSING ROUND.....	7
A. Under The Disco II Order, ICO is Presumptively Permitted To Participate In The U.S. Satellite Market .....	8
B. ICO Is A New Entrant And Is Technically And Financially Prepared To Offer MSS Service.....	9
III. UNDER THE CRITERIA PROPOSED HEREIN, MANY APPLICATIONS ARE PREMATURE AND SHOULD BE DEFERRED TO A LATER PROCESSING ROUND.....	10
A. Financially Unqualified Applicants Should Be Deferred And Made Subject To Due Diligence Requirements.....	10
B. The Commission Should Defer Those Applications That Will Result In Warehousing Of Spectrum .....	11
C. Consideration Of Inmarsat's Application Is Premature Because Of The Remaining Uncertainty Concerning Inmarsat Privatization And The Manner In Which Inmarsat Will Serve The U.S. Market.....	12

D.	TMI's Need For 2 GHz Spectrum Should Be Further Examined.....	13
E.	The Commission Should Defer, Or Require Prompt Amendment Of, Applications That Are Not Technically Well-Defined .....	15
IV.	DEFERRED APPLICATIONS LIKELY CAN BE ACCOMMODATED WITHIN OTHER FREQUENCY BANDS.....	18
A.	The Cancellation Of The TRW Application At 1.6 GHz Has Freed Spectrum That Can Be Used By Second-Generation Applicants.....	18
B.	The Transfer Of The AMSC MSS System To Serve Another Region Has Freed Spectrum That Could Be Used By MSS Applicants.....	19
C.	WRC-99 May Allocate Additional Spectrum To MSS In The 1-3 GHz Range .....	20
	CONCLUSION.....	22

RECEIVED

MAY - 4 1998

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

Federal Communications Commission  
Office of Secretary

In the Matter of	)	
	)	
The 2 GHz Band Mobile	)	
Satellite Service Applications and	)	
Letters of Intent of	)	
	)	
The Boeing Company,	)	File Nos. 179-SAT-P/LA-97(16)
	)	90-SAT-AMEND-98
	)	
Celsat, Inc. and Celsat	)	File Nos. 26/27/28-DSS-P/LA-97
America, Inc.,	)	88-SAT-AMEND-98
	)	
Constellation Communications, Inc.,	)	File No. 181-SAT-P/LA-97(46)
	)	
Globalstar, L.P.,	)	File Nos. 182-SAT-P/LA-97(64)
	)	183-186-SAT-P/LA-97
	)	
ICO Services Limited,	)	File No. 188-SAT-LOI-97
	)	
Inmarsat Horizons,	)	File No. 190-SAT-LOI-97(4)
	)	
Iridium LLC,	)	File No. 187-SAT-P/LA-97(96)
	)	
Mobile Communications Holdings, Inc., and	)	File No. 180-SAT-P/LA-97(26)
	)	
TMI Communications and Company,	)	File No. 189-SAT-LOI-97
Limited Partnership	)	

**CONSOLIDATED COMMENTS OF ICO SERVICES LIMITED**

ICO Services Limited ("ICO") hereby submits its comments on the applications of The Boeing Company ("Boeing"), Celsat, Inc. and Celsat America, Inc. ("Celsat"), Constellation Communications, Inc. ("CCI"), Globalstar, L. P. ("Globalstar"), Iridium LLC ("Iridium") and Mobile Communications Holdings, Inc. ("MCHI") for authority to

construct, launch and operate nongeostationary (“NGSO”) and geostationary (“GSO”) mobile satellite systems in the 2 GHz frequency band. ICO also submits its comments on the letters of intent of Inmarsat and TMI Communications and Company, Limited Partnership (“TMI”) to operate non-U.S. licensed space stations to provide mobile satellite service (“MSS”) to and within the United States, using frequencies in the 2 GHz MSS band. ICO also submits its comments in support of ICO’s Letter of Intent to operate non-U.S. licensed space stations to provide mobile satellite service to and within the United States.<sup>1</sup>

### SUMMARY

ICO urges the Federal Communications Commission (“FCC” or “Commission”) to authorize only those systems that will use -- rather than warehouse -- the allocated 2 GHz spectrum and increase competition in the MSS market. In keeping with this goal, the Commission should adopt due diligence requirements on an expedited basis and authorize those new-entrant systems that, like ICO, have demonstrated both their technical and financial qualifications to deploy their proposed systems near term. Those systems should receive an across-the-band assignment of the 2 GHz spectrum allocated to MSS, after which those applicants can develop a band plan under the supervision of the Commission taking due account of International Telecommunication Union (“ITU”) frequency coordination requirements. Other applicants need not be denied an assignment of 2 GHz MSS spectrum, but should be permitted to participate in a subsequent processing round upon compliance with the Commission’s due diligence requirements.

---

<sup>1</sup> In these comments ICO will use the word “application” and “applicant” to refer both to U.S.-licensed systems’ requests for assignment of spectrum and to letters of intent from  
*(Fn Cont’d)*

ICO's proposed approach will avoid the award of spectrum to applicants that may never use it to provide an operational service. This proposed approach also will ensure that priority is given to new entrant applicants like ICO that will not merely expand existing Big LEO systems, but will bring new competition to the MSS marketplace.

**I. THE FCC SHOULD AUTHORIZE IN THIS PROCESSING ROUND ONLY QUALIFIED NEW ENTRANTS AND THOSE THAT WILL NOT WAREHOUSE SPECTRUM**

ICO urges the Commission to promote competition in the provision of global MSS by expediting consideration in the initial 2 GHz MSS processing round of fully developed new entrants and deferring, to a second processing round, those applications on which action at this time would be premature.<sup>2</sup> Specifically, ICO proposes that authorizations in this processing round be limited to those systems that will bring new competition to the MSS market; that are financially, legally, technically and otherwise qualified under applicable requirements; and that are not already holding MSS spectrum in other bands that they have not used at all or have not substantially utilized.<sup>3</sup>

**A. Authorizing New Entrants In This Processing Round Will Promote Competition**

The FCC previously has recognized that limiting a processing round to new entrants can serve the public interest. In the recent second Little LEO processing round, the FCC proposed to exclude first processing round licensees from participation in the second

---

non-U.S. licensed systems seeking access to 2 GHz spectrum in the United States, unless the context indicates otherwise.

<sup>2</sup> See pp. 3-18, *infra*.

<sup>3</sup> *Id.*

processing round in order to open the Little LEO service market to new entrants.<sup>4</sup> Although development of an industry spectrum band plan avoided the need for a bifurcated approach to Little LEO licensing, the Commission correctly recognized that a bifurcated approach can serve the public interest by promoting competition.<sup>5</sup> As the Commission pointed out in its Notice of Proposed Rulemaking in the Little LEO second processing round, “exclud[ing] current licensees from participating in [a] proceeding [will serve the public interest] because *competition in the . . . marketplace may be limited if an existing licensee obtains additional spectrum thereby excluding a new licensee from entering the . . . market.*”<sup>6</sup>

The Commission also confirmed its policy of promoting competition in satellite services in the DISCO II order, when it adopted policies “to facilitate competitive entry in the U.S. satellite services market by foreign-licensed satellites.”<sup>7</sup> The FCC concluded that among the benefits of its market-opening policies will be a greater number of satellite services from a larger number of providers and more choices for users and consumers in the selection of satellite services.<sup>8</sup>

---

<sup>4</sup> *Amendment of Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 10 CR 1, 5 (1997) (“Little LEO Report and Order”) (citing *Amendment of Part 25 of the Commission's Rules to Establish Rules and Policies Pertaining to the Second Processing Round of the Non-Voice, Non-Geostationary Mobile Satellite Service*, 11 FCC Rcd 19841 (1996) (“Little LEO NPRM”).

<sup>5</sup> *Id.*

<sup>6</sup> *Little LEO NPRM*, 11 FCC Rcd at 19846 (emphasis added).

<sup>7</sup> *Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, 12 FCC Rcd 24094, 24099 (1997) (“DISCO II Report and Order”).

<sup>8</sup> *Id.* at 24112.

The Commission should apply its pro-competition policy to the pending 2 GHz MSS applications. The applications submitted by existing Big LEO operators propose integrated systems modifying or expanding existing satellite systems using the 1.6/2.4 GHz band. Regardless of how the Big LEO operators couch their applications, they all seek to integrate substantial expansion capacity into systems they are presently developing or deploying. The authorization of 232 new satellites by existing Big LEO operators at 2 GHz, in addition to the 146 satellites already licensed but not yet in commercial service, will only increase the capacity of incumbents without bringing any new competition to the MSS marketplace. Accordingly, applicants such as ICO, that are not presently authorized to provide MSS services in the United States, should be given priority over existing and already licensed systems, and consideration of the latter should be deferred to a later processing round.<sup>9</sup>

In the interest of bringing new competition to the MSS industry without undue delay, the Commission should not attempt to develop a detailed band plan before approving the applications of qualified, new entrant applicants in this first processing round. The Commission should authorize qualified new applicants to access the entire 2 GHz MSS allocation.<sup>10</sup> Those applicants then can arrive at a band plan and submit that plan to the Commission for approval.

---

<sup>9</sup> ICO also intends to participate in a second processing round to seek access to the U.S. market to improve the service features and capacity of its system.

<sup>10</sup> As the Commission noted in another proceeding, permitting licensees to operate throughout allocated spectrum permits licensees to “refine and improve their system operations,” leading ultimately to better-defined service rules and “more efficient use of this scarce resource” by all entrants. *Application of Orbital Communications Corporation for Authority to Construct, Launch and Operate a Non-Voice, Non-Geostationary Mobile-Satellite System*, 9 FCC Rcd 6476, 6480 (1994), *aff’d*, 10 FCC Rcd 7801 (1995).



**B. The Commission Should Impose Appropriate Legal, Technical And Financial Due Diligence Requirements**

The Communications Act of 1934, as amended, requires the Commission to “continue to use engineering solutions, negotiation, *threshold* qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings.”<sup>11</sup> In this proceeding, the Commission can best fulfill its statutory mandate by adopting, on an expedited basis, due diligence requirements that embody long-applied, historical FCC policies: specifically, its requirements that applicants be legally, financially and technically qualified to provide the service for which access to spectrum is sought.<sup>12</sup> Pursuant to those policies, the Commission should require a financial due diligence demonstration from all domestic applicants for U.S. 2 GHz MSS spectrum and should review that financial information even before developing final, detailed service rules.<sup>13</sup> The Commission should require all U.S. applicants to demonstrate their ability to construct, launch and operate the proposed systems for one year.<sup>14</sup> The Commission also should require applicants to demonstrate that their legal ability to offer the proposed service

---

<sup>11</sup> 47 U.S.C. § 309(j)(6)(E) (emphasis added).

<sup>12</sup> See 47 C.F.R. §25.142 (a) (licensing provisions for the non-voice, non-geostationary mobile-satellite service); 47 C.F.R. §25.143 (b)(1)-(3) (licensing provisions for the 1.6/2.4 GHz mobile-satellite service); 47 C.F.R. §25.144 (a) (2) (licensing provisions for the 2.3 GHz satellite digital audio radio service).

<sup>13</sup> As ICO points out at pp. 8-9, *infra*, ICO already has complied with the due diligence requirements of the United Kingdom.

<sup>14</sup> The Commission already recognizes that 2 GHz applicants should demonstrate their ability “to proceed expeditiously with construction and launch” of their proposed systems. FCC Public Notice, *Clarification and Corrections to Public Notices Reports Nos. SPB-88 and SPB-89 establishing deadlines for applications, letters of intent, and amendments to applications in the 2 GHz and 36-51.4 GHz Frequency Bands*, 12 FCC Rcd 12050, 12051 (1997).

is clear, and that their proposed systems are technically well-defined and operationally feasible.

**C. The Commission Should Require A Demonstration That Holders of Previously Assigned Spectrum Are Utilizing That Spectrum**

The Commission consistently has discouraged the "'warehousing' of orbit-spectrum resources by those who will not use it . . . ."<sup>15</sup> In this proceeding, the Commission should follow its anti-warehousing policy by requiring holders of previously-assigned spectrum to demonstrate that those existing spectrum resources will not be sufficient to meet the service needs for which those entities are seeking assignment of 2 GHz MSS spectrum. Only where a clear demonstration of need for additional spectrum has been made should an application for assignment of 2 GHz MSS spectrum be granted.

**II. THE ICO SYSTEM IS A QUALIFIED NEW ENTRANT AND SHOULD BE AUTHORIZED IN THIS FIRST PROCESSING ROUND**

Authorization of ICO's service in this first processing round fully comports with the Commission's policies and serves the public interest. ICO is the most fully-developed of all the systems proposed in this proceeding, and one of the first non-U.S. based MSS systems seeking access to the U.S. market at 2 GHz. ICO has complied with the stringent due diligence regulations of the United Kingdom; ICO's spacecraft are under construction and the first launch is scheduled for the last quarter of 1998, with service expected to be

---

<sup>15</sup> *Little LEO Report and Order*, 10 CR at 4.

delivered in the United States in the year 2000.<sup>16</sup> Granting ICO's application will bring a new competitor into the U.S. and global markets for MSS services. will create employment and investment opportunities in the United States and will help fulfill the commitment the United States made in the World Trade Organization Agreement on Basic Telecommunications Services ("WTO Agreement") to open its market to MSS competition on a non-discriminatory basis.

**A. Under The Disco II Order, ICO Is Presumptively Permitted To Participate In The U.S. Satellite Market**

In November of 1997, the Commission adopted its Report and Order implementing the market opening commitments of the United States in the WTO Agreement.<sup>17</sup> In that Report and Order, the Commission replaced its former ECO-SAT test with a presumption in favor of granting an application to serve the United States from a non-U.S. based satellite authorized by a WTO member country.<sup>18</sup>

The ICO non-U.S. based system is subject to authorization by the United Kingdom, a WTO member, to provide global mobile satellite services that are covered by the WTO Agreement. ICO, therefore, is entitled to the presumption that its MSS system should be permitted to serve the United States satellite market.

---

<sup>16</sup> ICO Letter of Intent at 44.

<sup>17</sup> *DISCO II Report and Order*, 12 FCC Rcd 24094 (1997).

<sup>18</sup> *Id.* at 24112.

**B. ICO Is A New Entrant And Is Technically And Financially Prepared To Offer MSS Service**

ICO qualifies for prompt access to 2 GHz MSS spectrum under the criteria recommended above. First, ICO has fully complied to date with the stringent due diligence requirements of the United Kingdom, and has demonstrated its readiness to provide service by building spacecraft and scheduling launches beginning this year. ICO also has fully complied with the European Conference of Postal and Telecommunications Administrations ("CEPT") due diligence requirements, including Milestones 1 to 5 inclusive of European Committee for Telecommunications Regulatory Affairs ("ECTRA") Decision ("DEC") ECTRA/DEC/(97)/02 and European Radiocommunications Committee ("ERC") Decision - ERC/DEC(97) 03.<sup>19</sup> Finally, ICO is not presently authorized to use MSS spectrum in the United States to offer services in any frequency band and, therefore, will bring new competition to the MSS marketplace, rather than merely adding to an existing system for which spectrum already has been assigned.

As ICO pointed out in its Letter of Intent, ICO is working closely with U.S. vendors and partners and will create jobs, as well as new consumer choices, in the United States as its system is deployed and services are sold.<sup>20</sup> Overall, ICO expects its MSS system to create more than 2,000 highly skilled jobs in the United States. Several major U.S. companies -- TRW, Hughes and COMSAT -- are significant investors in ICO, and ICO's satellite and launch services provide Hughes Network Systems and other U.S. companies with contracts totaling \$2.4 billion. ICO, therefore, satisfies all relevant criteria to provide

---

<sup>19</sup> ICO's submission to CEPT was considered by the CEPT Milestone Review Committee ("MRC") in February, 1998.

<sup>20</sup> ICO Letter of Intent at 65.

MSS service to the United States and should be granted access to 2 GHz spectrum in this first processing round.

### **III. UNDER THE CRITERIA PROPOSED HEREIN, MANY APPLICATIONS ARE PREMATURE AND SHOULD BE DEFERRED TO A LATER PROCESSING ROUND**

A number of applicants for assignment of 2 GHz MSS spectrum are unlikely to satisfy the threshold requirements of legal, technical and financial due diligence or are likely to warehouse any 2 GHz spectrum assigned to them. Accordingly, consideration of those applications should be deferred to a later processing round.

#### **A. Financially Unqualified Applicants Should Be Deferred And Made Subject To Due Diligence Requirements**

The need for compliance by U.S. applicants with financial due diligence requirements in this proceeding is especially important in light of the applications from MCHI and Constellation, which were awarded spectrum in the Big LEO proceeding without demonstrating their financial qualifications.<sup>21</sup> The Commission waived those requirements for MCHI and Constellation in that proceeding, based on the Commission's conclusions that: (1) mutual exclusivity between pending Big LEO applications no longer existed once AMSC withdrew its proposed application; and (2) future entry for new systems or expansion of existing systems would be possible because of the Commission's March 1997 allocation of additional 2 GHz MSS spectrum.<sup>22</sup> These circumstances do not exist in this

---

<sup>21</sup> The FCC specifically had found, initially, that MCHI and Constellation were *not* financially qualified and deferred licensing until they could demonstrate their financial qualifications. *Constellation Communications, Inc.*, 10 FCC Rcd 2258 (Int'l Bur. 1995); *Mobile Communications Holdings, Inc.*, 10 FCC Rcd 2274 (Int'l Bur. 1995).

<sup>22</sup> *Application of Constellation Communications, Inc. For authority to construct, launch, and operate a low earth orbit Mobile Satellite System*, 12 FCC Rcd 9651, 9656 (1997)  
(*Fn Cont'd*)

first 2 GHz MSS processing round, in which the pending applications are unlikely to be accommodated in a single round.<sup>23</sup> Accordingly, the Commission's statutory mandate to avoid mutual exclusivity would be advanced by requiring MCHI, Constellation and all other domestic systems seeking 2 GHz MSS spectrum to demonstrate their financial ability.

**B. The Commission Should Defer Those Applications That Will Result In Warehousing Of Spectrum**

Assignment of any additional spectrum in the 2 GHz MSS band to any of the Big LEO licensees is premature. Within the last three years, the FCC granted four Big LEO licensees --Iridium, Globalstar, Constellation and MCHI -- authority to construct, launch and operate a total of 146 satellites. Although Globalstar and Iridium have made significant progress in constructing and launching their satellites, as yet none of these Big LEO licensees is providing full commercial MSS services. With so much existing capacity on the 146 satellites already authorized, an assignment of additional spectrum at this time to existing Big LEO licensees would be premature and would allow those licensees to

---

(“Constellation Authorization”); *Application of Mobile Communications Holdings, Inc.; For authority to construct launch, and operate an elliptical low earth orbit Mobile Satellite System*, 12 FCC Rcd 9663, 9673 (1997) (“MCHI Authorization”). In addition, the International Bureau ruled that the initial financial information filed by MCHI and Constellation was insufficient, and the FCC twice postponed the time for MCHI and Constellation to file financial information. *MCHI Authorization*, 12 FCC Rcd at 9665; *Constellation Authorization*, 12 FCC Rcd at 9653.

<sup>23</sup> Although the FCC did not require that 2 GHz applicants file information to demonstrate their financial qualifications at this time, it has required that both MCHI and Constellation meet Big LEO construction and launch milestones. *Constellation Authorization* at 9661; *MCHI Authorization* at 9680.

warehouse spectrum. Permitting such spectrum warehousing runs counter to FCC policy<sup>24</sup> and U.S. international commitments.<sup>25</sup>

**C. Consideration Of Inmarsat's Application Is Premature Because Of The Remaining Uncertainty Concerning Inmarsat Privatization And The Manner In Which Inmarsat Will Serve The U.S. Market**

At the recent April 1998 Inmarsat Assembly, a privatization model was approved, subject to finalization of the implementation details at an extraordinary meeting of the Assembly in September 1998.<sup>26</sup> The ability of Inmarsat to provide MSS service to the U.S. market, and the manner in which that service is provided, may be substantially affected by pending U.S. legislation, such as the pending proposed amendments to the Communications

---

<sup>24</sup> See *Little LEO Report and Order*, 10 CR at 4-5; *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd 22310, 22334 (1997) ("Ka- Band Third Rpt. and Order") (goal of preventing warehousing); See, e.g., *G.E. American Communications, Inc. Application for Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed-Satellite Service*, 12 FCC Rcd 6475, 6483-84 (1997); *Morning Star Satellite Company, L.L.C. Application for Authority to Construct, Launch, and Operate a Ka-Band Satellite System in the Fixed-Satellite Service*, 12 FCC Rcd 6039, 6048 (1997); *NetSat 28 Company, L.L.C. Application for Authority to Launch and Operate a Ka-Band Communications Satellite in the Fixed-Satellite Service*, 13 FCC Rcd 1392, 1401 (1997) (establishing milestone schedules to ensure licensees are not warehousing spectrum if unable or unwilling to proceed); *Application of Volunteers in Technical Assistance For Authority To Construct, Launch and Operate a Non-Voice, Non-Geostationary Mobile-Satellite System*, 12 FCC Rcd 3094, 3110 (1997) (noting that FCC policy against "warehousing" applies equally to commercial and non-commercial enterprises in denying VITA a license to operate a second satellite as part of its Little LEO system).

<sup>25</sup> The International Amateur Radio Union, *World Radiocommunication Conference (WRC-99). Agenda and References (Resolutions and Recommendations)*, 16 (1998) (Resolution 49 (WRC-97) Administrative Due Diligence Applicable to Some Satellite Communications Services (Geneva, 1997) (adopting procedure to prevent "paper satellites")).

<sup>26</sup> Inmarsat Press Release, *Inmarsat Member Countries Agree On Path Towards Restructure*, April 24, 1998.

Satellite Competition and Privatization Act of 1998 (the “Act”).<sup>27</sup> Some versions of the Act under consideration in Congress would condition the ability of Inmarsat to obtain new orbital locations, or develop new satellites to provide non-core services, upon privatization of Inmarsat in a manner that will not harm competition in the United States.<sup>28</sup> The Act also may provide that during the transition period to Inmarsat privatization, Inmarsat may not expand into additional services or areas of business.<sup>29</sup>

The pending Act raises the possibility that Inmarsat will be unable to use assigned 2 GHz spectrum for MSS services, or will not be in a position to do so within a reasonable time. Accordingly, no 2 GHz spectrum should be assigned to Inmarsat in the present processing round, especially also as Inmarsat already has coordinated substantial spectrum in the MSS L-band over North America. If the present uncertainty concerning Inmarsat’s ability to provide MSS service in the United States is resolved and Inmarsat’s proposed use of 2 GHz spectrum is otherwise eligible for authorization, then Inmarsat’s proposed system can be considered for authorization in a later processing round.

#### **D. TMI’S Need For 2 GHz Spectrum Should Be Further Examined**

Before considering TMI’s application for 2 GHz MSS spectrum, the FCC should consider the level of existing MSS service capacity on TMI’s MSAT-1 satellite in light of TMI’s recent agreement with AMSC. As part of that agreement, TMI will lease excess

---

<sup>27</sup> H.R. 1872, 105th Cong. (1998) introduced by Representative Bliley (R.-Va.) and recently reported out of the House Commerce Committee. A somewhat different version of this legislation is pending in the Senate.

<sup>28</sup> *Id.* §601(b)(3). “Non-core services” are defined, with respect to Inmarsat, as “services other than global maritime distress and safety services or other existing maritime or aeronautical services for which there are not alternative providers.” *Id.* §681(a)(11).

<sup>29</sup> *Id.* §621(4).



capacity on its MSAT-1 to AMSC in order to allow AMSC to provide MSS service over its AMSC-1 satellite to Africa.<sup>30</sup> The projected MSS traffic demands of both companies apparently failed to materialize after competing cellular companies were able to cover more of the United States and Canada than had been expected.<sup>31</sup>

AMSC will lease capacity on TMI to provide service to its existing customers and proposes to lease its AMSC-1 to African Continental Telecommunications, Ltd. (“ACTEL”).<sup>32</sup> TMI apparently has sufficient capacity on MSAT-1 to accommodate all AMSC and TMI users.<sup>33</sup> As part of the TMI/AMSC agreement, each company will maintain its independence, in accordance with its license terms, and each will have access to half the satellite’s power and to any internationally-coordinated spectrum assigned to it by

---

<sup>30</sup> In March 1998, the FCC approved AMSC’s request to provide MSS to existing customers through a lease of capacity on TMI’s MSAT-1 rather than continuing to use its AMSC-1 satellite, which was launched in 1995. *Application of AMSC Subsidiary Corporation; For Modification of Mobile Satellite Service License; For Modification of Earth Station Licenses*, 1998 FCC LEXIS 1272, \*1 (Mar. 13, 1998) (“AMSC Modification Request Order”). The order also permits AMSC to temporarily relocate AMSC-1 and to lease capacity on AMSC-1 to ACTEL to provide service to southern Africa for five years. *Id.* at \*2. Once AMSC-1 is moved to its new location in southern Africa, the United States will relinquish its status as the licensing administration. *Id.* at \*13. In its application, AMSC also sought authority to operate MSAT-1 on lower L-band frequencies (1530-1545 MHz and 1631.5-1646.5 MHz) in addition to its currently assigned frequencies in the upper L-band. The FCC, however, did not address this request to operate in the lower L-band, citing a separate, pending AMSC application that requests authority to operate in those bands. *Id.* at \*3 n.3; see also *Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band*, 11 FCC Rcd 11675, 11678-79 (1996) (“L-Band NPRM”).

<sup>31</sup> *AMSC and Canada’s TMI to Share Single Satellite for Mobile Service*, Mobile Satellite News, Dec. 11, 1997.

<sup>32</sup> *Id.*

<sup>33</sup> *AMSC Leases Satellite to Start-up, Decides to Share Capacity with TMI*, Mobile Comm. Rpt., Dec. 15, 1997.

its national licensing authority.<sup>34</sup> In light of TMI's ability to lease substantial amounts of unused L-Band capacity to a competitor, the Commission should not consider an assignment of 2 GHz spectrum to TMI, or should consider such an assignment only after the Commission completes its review of L-band 1.5/1.6 GHz MSS usage.

**E. The Commission Should Defer, Or Require Prompt Amendment Of, Applications That Are Not Technically Well-Defined**

Several of the applications for authority to launch and operate space stations to use 2 GHz spectrum to provide MSS services are, at best, very preliminary because these applications fail to make crucial technical choices concerning the method of operation of the systems described. In the absence of more complete descriptions of the technical characteristics of those systems, neither the Commission nor the qualified applicants can develop an effective band plan for users of the allocated 2 GHz MSS spectrum. Accordingly, those applications either should be amended promptly or should be considered in a later processing round when those applicants have performed the necessary system trade-off studies and have refined their system descriptions to develop a technically sound baseline system design in accordance with appropriate service rules.

Among the technical difficulties with the applications is the failure of four applicants to choose between code division multiple access ("CDMA") and time division multiple access ("TDMA"). Instead, those applicants simply have suggested that they will use both modulation/multiple access approaches.<sup>35</sup> It is unlikely that any system will be

---

<sup>34</sup> *AMSC Modification Request Order*, 1998 FCC LEXIS 1272 at \*3.

<sup>35</sup> Boeing proposes to use the CDMA format for its Aeronautical Telecommunication Network ("ATN") service and TDMA for its Traffic Information Service ("TIS"). Iridium proposes to use TDMA for voice service and CDMA for data service; and Globalstar will use TDMA for voice and low-speed data and CDMA for high-speed data. Celsat proposes  
*(Fn Cont'd)*

deployed in this inherently inefficient, “hybrid” form; these applicants most likely have not studied the two technologies adequately to assess their advantages and disadvantages, and for that reason are postponing a choice. The range of spectrum use plans that the FCC can consider for the 2 GHz MSS bands will be partly determined, as a practical matter, by the applicants’ individual elections to use either (but not both) CDMA or TDMA. Those applicants that have failed to make such an election should be required to amend their applications now, or in a subsequent processing round, to select TDMA or CDMA or explain more fully the operational characteristics of any “hybrid” system they propose to deploy and the consequent impacts on spectrum use and inter-system sharing.

Globalstar proposes to use both geostationary and nongeostationary satellites.<sup>36</sup> and also suggests an alternative system architecture that uses only nongeostationary satellites to provide services that utilize both 2 GHz and 1.6/2.4 GHz MSS bands.<sup>37</sup> The proposed, combined GSO and NGSO system would present much more complex inter-system interference and coordination problems than a single GSO or NGSO system. Globalstar should be required, in a subsequent processing round, to elect which of its suggested, alternate systems it will deploy. Without such information, work on a realistic band plan by the Commission cannot even begin.

Boeing proposes to use dual polarization on the 2 GHz service links, using both left-hand and right-hand circular polarization, as a means of conserving and reusing spectrum.<sup>38</sup>

---

to employ both modulation techniques, while TMI does not clearly state its choice of technology.

<sup>36</sup> Globalstar Application at 1-46.

<sup>37</sup> *Id.* at 46-52.

<sup>38</sup> Boeing Application, Attach. 1, at 7.

While it has become common practice to employ dual polarization on feeder links, no commercial mobile satellite system has yet successfully applied this approach with low-gain mobile terminals, such as those that Boeing proposes to use on 2 GHz service links. For example, Boeing's link budget shows that the gain of the mobile terminal on aircraft is only 5 dBi.<sup>39</sup> This does not appear to be a well-defined antenna beam that could support or maintain the purity of polarization required to isolate against the orthogonal sense of polarization at the satellite -- especially from a mobile platform. Under these parameters, Boeing's system could interfere with itself instead of achieving the indicated, two-fold frequency reuse. Boeing's proposed design therefore deserves further technical clarification.

Finally, the Boeing application designates both ATN and TIS as air traffic safety AM(R)S services with consequent importance to safety and regularity of flight under ITU and International Civil Aviation Organization ("ICAO") definitions.<sup>40</sup> TIS and ATN should not be available in the 2 GHz MSS band, because these are aeronautical safety services rather than purely commercial services. If ATN and TIS are embraced by aviation interests, the aviation community likely will demand preemptive protection for these services. Accordingly, these services should be placed elsewhere in the 1-3 GHz spectrum -- most likely in the aeronautical portion of the upper L-band at 1545 MHz-1555 MHz and 1646.5 MHz-1656.5 MHz. Also, any request to provide additional protection or preemptive priority to Boeing's proposed aeronautical services should not be accepted at this time because such treatment will significantly constrain other bona fide 2 GHz MSS operations.

---

<sup>39</sup> *Id.*, Forward Link Budget, Attach. 1, at App. 1-A, Table A-1.

<sup>40</sup> Boeing Application at 2, n.6.

If Boeing makes such a request, the Commission should initiate a separate proceeding to address whether AM(R)S should be allocated in the 2 GHz MSS bands, and if so, under what conditions.

No spectrum band plan can be negotiated or enacted until the eligible systems and the Commission are assured that the essential, engineering decisions for each system's operation have been made. Accordingly, those applicants that are otherwise eligible for consideration in this first processing round should be required to complete their engineering studies and amend their applications accordingly. Those applications that are premature for reasons already discussed should be required to make the necessary technical decisions, and submit applications accordingly, for consideration in the second processing round.

#### **IV. DEFERRED APPLICATIONS LIKELY CAN BE ACCOMMODATED WITHIN OTHER FREQUENCY BANDS**

##### **A. The Cancellation Of The TRW Authorization At 1.6 GHz Has Freed Spectrum That Can Be Used By Second-Generation Applicants**

On January 7, 1998, TRW Inc. ("TRW") cancelled its Big LEO authorization to construct, launch and operate its Odyssey mobile satellite system, thereby freeing up spectrum in the 1.6/2.4 and 28 GHz frequency bands for assignment to other service providers.<sup>41</sup> Before considering additional MSS assignments for Big LEO licensees in the 2 GHz MSS frequency bands in a subsequent processing round, the FCC should determine whether the second generation Big LEO applications can be accommodated within the spectrum released in January by TRW. If some or all of the Big LEO applicants can be

---

<sup>41</sup> Letter to Magalie R. Salas, Secretary, Federal Communications Commission from Norman P. Leventhal, Attorney for TRW, Inc. (Jan. 7, 1998) (on file at the FCC in file nos. 69-SAT-ML-97; 70-SAT-ML-97).

accommodated in those bands, the FCC should reassign the returned spectrum to qualified Big LEO applicants.<sup>42</sup> In any case, the Commission should not assign 2 GHz spectrum to any Big LEO incumbent until that review is complete.

As part of that review, the Commission also should take into account whether Constellation or ELLIPSO meets its construction milestones in July, 1998. In the event that one or more of these MSS licensees fails to meet the FCC construction milestones, those licenses should be forfeited and the entire 1.6/2.4 GHz band subjected to further formal review. Until that review is complete, the FCC should not consider second generation Big LEO applicants in this 2 GHz MSS processing round.

**B. The Transfer Of The AMSC MSS System To Serve Another Region Has Freed Spectrum That Could Be Used By MSS Applicants**

The United States government supports an international coordination process for the assignment of spectrum in the lower L-band as well as upper L-band.<sup>43</sup> The L-band spectrum coordination agreement makes assignments for both TMI/MSAT and AMSC geostationary MSS systems to share spectrum over North America.<sup>44</sup>

---

<sup>42</sup> See *Little LEO Report and Order*, 10 CR at 5 (reallocating returned MSS spectrum for Little LEO use).

<sup>43</sup> *COMSAT Corporation Applications to modify various L-band land earth stations for use with Inmarsat's first, second, and third generation satellites and currently authorized mobile services*, 11 FCC Rcd 8021, 8023 (1996).

<sup>44</sup> See FCC News Release, *International Action FCC Hails Historic Agreement on International Satellite Coordination*, 1996 FCC LEXIS 4699, June 25, 1996; *Historic Achievements*; *U.S. and Neighbors Agree to L-Band Spectrum Coordination Framework*, Comm. Daily, June 21, 1996 (framework to allow operators to coordinate frequencies based on need).

However, the FCC recently has authorized the transfer of the AMSC satellite from its 101°W position to another location to offer MSS services over Region 1.<sup>45</sup> This action apparently frees up spectrum in the L-band spectrum that could be used by other applicants. In fact, following WRC-97, consistent with long-standing U.S. policy objectives since WARC-MOB-87, the L-band MSS spectrum has been allocated “generically” to MSS. The potential improvements in spectrum efficiency and flexibility of use of the L-band MSS spectrum should enable some additional U.S. and non-U.S. based MSS systems to access this spectrum. The Commission should invite applications for the entire L-band spectrum of 1525-1559/1626.5-1660.5 MHz for serving the U.S. market -- perhaps by first seeking additional comments and concluding the proceeding in IB Docket No. 96-132.<sup>46</sup> Thus, the Commission should examine whether TMI’s request to access 2 GHz MSS spectrum for a second generation should be deferred until the L-band proceeding is completed.

**C. WRC-99 May Allocate Additional Spectrum To MSS In The 1-3 GHz Range**

At WRC-97 various administrations supported the need for additional MSS spectrum in the 1-3 GHz range, taking account of International Telecommunication Union Radiocommunications Sector (“ITU-R”) studies that identified a clear need for additional MSS spectrum. The 1999/2000 World Radiocommunication Conference (WRC-99) will address MSS issues.<sup>47</sup> The WRC-99 conference agenda items 1.9 (and, indirectly, 1.6.1) call for treatment or consideration of additional MSS spectrum in the 1-3 GHz range.

---

<sup>45</sup> See *supra*, note 30. *AMSC Modification Request Order*, 1998 LEXIS 1272.

<sup>46</sup> *L-band NPRM*, 11 FCC Rcd 11675 (1996).

<sup>47</sup> FCC Public Notice, *Commission Starts Planning for 1999/2000 World Radiocommunication Conference*, FCC Report No. IN 98-5, Feb. 2, 1998.

The WRC-97 also recognized an urgent need for additional spectrum in the terrestrial component of advanced mobile communications and proposed that WRC-99 consider that question,<sup>48</sup> and an FCC advisory committee informal working group on MSS above 1 GHz has been formed to assess this issue. Such additional spectrum allocation could accommodate deferred 2 GHz applicants who later meet applicable due diligence requirements. Clearly, the availability of various frequency bands under study for potential MSS use will not be known until after WRC-99. Should those allocations be adopted, the FCC should permit the deferred 2 GHz MSS applicants to amend their applications to seek access to any newly-allocated MSS frequency bands.

If such newly-allocated MSS bands are adjacent or nearly adjacent to the existing MSS allocations, the economic cost for existing or planned NGSO MSS systems to develop enhanced satellites with tuning ranges adjacent to their first-generation satellites will be less than the cost of maintaining and supporting different fleets of MSS constellations in two different frequency bands. This would allow for reasonable capacity growth, once the first generation capacity has been fully utilized, which in turn will promote effective competition over the long term.

---

<sup>48</sup> *Id.*



## CONCLUSION

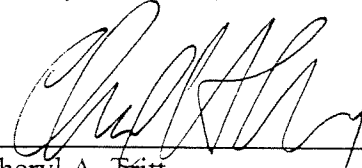
In order to expand the availability of MSS services in the United States without delay, the Commission should take the following actions:

- (1) establish due diligence requirements on an expedited basis;
- (2) pursuant to the Commission's due diligence requirements, require all domestic applicants to submit financial information for immediate Commission review;
- (3) give priority in 2 GHz MSS assignments to those applications from new entrants that have demonstrated applicable due diligence;
- (4) initiate parallel proceedings to examine the use of spectrum already assigned to incumbent Big LEOs and certain other 2 GHz MSS applicants in the 1.6/2.4 GHz and 1.5/1.6 GHz bands, and consider the extent to which these 2 GHz applicants can be accommodated in other spectrum; and
- (5) consider initiation of a second processing round for all deferred applicants, after the first round is completed, in which new applicants also will be permitted to participate on a "second-generation" basis.

This proposed approach will separate real from "paper" systems and ensure that valuable 2 GHz spectrum is used to the optimal advantage of the American consumer.

Respectfully submitted,

By: \_\_\_\_\_



Cheryl A. Fritt  
Charles H. Kennedy  
Sheryl J. Lincoln  
Morrison & Foerster LLP  
2000 Pennsylvania Avenue, N.W.  
Washington, D.C. 20006-1888  
(202) 887-1500

Francis D.R. Coleman  
Director Regulatory Affairs - North America  
ICO Global Communications  
1101 Connecticut Avenue, N. W.  
Suite 550  
Washington, D.C. 20036

Attorneys for ICO Services Limited

May 4, 1998

## Certificate of Service

I, Kathryn M. Stasko, do hereby certify that the foregoing **CONSOLIDATED COMMENTS OF ICO SERVICES LIMITED** were delivered, via first class mail, postage prepaid, on this 4<sup>th</sup> day of May, 1998, to the following:

Magalie Roman Salas* Secretary Federal Communications Commission 1919 M Street, N.W., Room 222 Washington, D.C. 20554	Chairman William E. Kennard* Federal Communications Commission 1919 M Street, N.W., Room 814 Washington, D.C. 20554
Commissioner Harold Furtchgott-Roth* Federal Communications Commission 1919 M Street, N.W., Room 802 Washington, D.C. 20554	Commissioner Michael Powell* Federal Communications Commission 1919 M Street, N.W., Room 844 Washington, D.C. 20554
Commissioner Susan Ness* Federal Communications Commission 1919 M Street, N.W., Room 832 Washington, D.C. 20554	Commissioner Gloria Tristani* Federal Communications Commission 1919 M Street, N.W., Room 826 Washington, D.C. 20554
Regina Keeney* Chief International Bureau Federal Communications Commission 2000 M Street, N.W., Suite 800 Washington, D.C. 20554	James Ball* Associate Chief, Policy International Bureau Federal Communications Commission 2000 M Street, N.W., Suite 800 Washington, D.C. 20554
Tom Tycz* Chief Satellite and Radiocommunication Division International Bureau Federal Communications Commission 2000 M Street, N.W., Suite 800 Washington, D.C. 20554	Cecily Holiday* Deputy Chief Satellite and Radiocommunication Division International Bureau Federal Communications Commission 2000 M Street, N.W., Suite 800 Washington, D.C. 20554

<p>Debra Gonzalez*  Satellite and Radiocommunication Division  International Bureau  Federal Communications Commission  2000 M Street, N.W., Suite 800  Washington, D.C. 20554</p>	<p>Fern Jarmulnek*  Chief, Satellite Policy Branch  Satellite and Radiocommunication Division  International Bureau  Federal Communications Commission  2000 M Street, N.W., Suite 800  Washington, D.C. 20554</p>
<p>Kathleen Campbell*  Satellite Policy Branch  Satellite and Radiocommunication Division  International Bureau  Federal Communications Commission  2000 M Street, N.W., Suite 800  Washington, D.C. 20554</p>	<p>Virginia Marshall*  Satellite Policy Branch  Satellite and Radiocommunication Division  International Bureau  Federal Communications Commission  2000 M Street, N.W., Suite 800  Washington, D.C. 20554</p>
<p>Frank J. Peace*  Satellite Engineering Branch  Satellite and Radiocommunication Division  International Bureau  Federal Communications Commission  2000 M Street, N.W., Suite 800  Washington, D.C. 20554</p>	<p>Gregory C. Staple  Koteen &amp; Naftalin, L.L.P.  1150 Connecticut Avenue  Washington, D.C. 20036</p>
<p>Bruce A. Olcott  Squire, Sanders &amp; Dempsey L L P  1201 Pennsylvania Ave., N W  P O Box 407  Washington, D.C. 20044-0407</p>	<p>John C. Quale  Skadden, Arps, Slate, Meagher &amp; Flom LLP  1440 New York Avenue, N.W.  Washington, D.C. 20005-2111</p>
<p>Cecil J. Waylan  President and Chief Executive Officer  Constellation Communications, Inc  One Fountain Square - Suite 500  11911 Freedom Drive  Reston, VA 20190</p>	<p>William D. Wallace  Crowell &amp; Moring LLP  1001 Pennsylvania Ave., N.W.  Washington, D.C. 20004-2595</p>
<p>Warren Grace  Director General  INMARSAT  99 City Road  London EC1Y 1AX  United Kingdom</p>	<p>Patricia A. Mahoney  Senior Counsel, Regulatory Matters  Iridium LLC  1575 Eye Street, N.W., Suite 500  Washington, D.C. 20005</p>

David Castiel Chairman and Chief Executive Officer Mobile Communications Holdings, Inc. 1120 19th Street, N.W. Washington, D.C. 20036	
---	--

\* By Hand

Kathryn M. Stasko  
Kathryn M. Stasko